



STATE OF WASHINGTON

STATE BUILDING CODE COUNCIL

128-10th Avenue SW • P.O. Box 42525 • Olympia, Washington 98504-2525
(360) 725-2966 • fax (360) 586-9383 • e-mail sbcc@cted.wa.gov • www.sbcc.wa.gov

MINUTES MECHANICAL, VENTILATION and ENERGY CODES COMMITTEE MEETING

Date: June 10, 2010

Location: Seattle Pipe Trades Education Center

Committee Members Present: Mari Hamasaki, Chair; John Cochran; Jerry Mueller;
Dale Wentworth

Committee Members Absent: Kristyn Clayton, Tien Peng

Visitors Present: Jeff Holgate, Dan Schmauch, Chuck Murray, Kraig Stevenson, Erich Lohnes, Patrick Hayes

Staff Present: Tim Nogler, Krista Braaksma

CALL TO ORDER

Mari Hamasaki, Chair of the Mechanical, Ventilation and Energy Codes Committee, called the meeting to order at 1:00 p.m. Everyone was welcomed and introductions were made.

REVIEW AND APPROVE AGENDA

The minutes were approved with the following modifications. A review of the Mechanical TAG's recommendations was added under Other Business, along with a discussion of the Governor's request.

REVIEW AND APPROVE MINUTES

The minutes of the May 14, 2010, meeting were approved as written.

Tim Nogler noted that last month the Committee discussed concerns regarding holding meetings at the Pipe Trades Education Center and the suggestion that Angie Homola made to create a letter for clarification for the file. Tim said he would have something included for the next meeting for the Council's consideration.

PUBLIC COMMENT ON ITEMS NOT COVERED BY THE AGENDA

Kraig Stevenson asked if, for the purpose of assistance on code interpretations, the Committee would allow public comment at that point. Tim stated that it would be up to the discretion of the Chair and the Committee members.

Dan Schmause, a contractor with ACCA, stated he was concerned about the new energy code and how it is going to be implemented. Speaking for himself and not on behalf of ACCA, he is very concerned about the testing requirements in the retro-fit market. You have no idea what's going to happen when doing an air test on an existing home. He stated he did understand the option where a third party says you've done everything possible. It is very difficult in the HVAC business to bid on jobs; there many unknowns and this will be a really big one, for both the company and the customer, because there will be additional costs. His research showed a price range of around \$300 for independent testing. The problem with that is it has to be done before the job is accepted. That's where it throws the whole thing into a mess. The customer will have to come up with the money to do the testing before we can write up a contract. He stated that this is a great idea for new construction, but does present problems for retrofit jobs. It may have some unintended results that may harm contractors and the public in that they may not feel free to do a replacement because of the costs incurred or the unknowns.

Tim noted this was a new provision in Section 101 of the Energy Code. Craig Williamson, with MM Comfort Systems, a heating and air conditioning company, had similar concerns. He stated his company has installed "thousands" of furnaces. He commented on requirement for duct testing in existing homes. He also applauds the work of the Council in efforts to save energy and we share that value and priority. But in the case of this specific rule, there are a variety of serious unintended consequences. There is going to be a significant cost. If you think about going to the home and sealing up the registers, doing the duct test, putting the furnace in, unsealing the registers, turn the furnace up, and then going back to reseal the registers. Even if everything goes perfectly, the labor costs associated with the compliance is going to exceed the labor associated with the original project. Whatever costs are involved are going to be passed on to the consumers and that's going to be a significant unintended consequence. As a result of that, he is convinced that it is going to result in more energy consumption in the State of Washington. Consumers are going to opt to repair their inefficient systems because they are not going to be able to replace them with a new system. Energy usage is going to be higher with the new rule that it would be without. He noted his company routinely loses work over a price point of under \$50 or \$100. He feels that less high efficient equipment

will be installed if these rules are enacted. Additionally, the Council is putting the citizen and the contractor in a position where they can't come to an agreement on a contract. We look the consumer in the eye and say we think you should do this, but we don't know what it's going to cost. That will undermine the whole relationship. We can't enter into a traditional agreement. We have many customers that consider their homes to be private spaces and the notion that in replacing your furnace someone needs to search the house, go in every room searching for air registers, looking under the bed, probably move furniture, will not be tolerated—customers are not going to tolerate that level of intrusion. Is it even legal, if challenged? Additionally, underground contracting is going to increase. When a person is interested in a new furnace only one of three things can happen. They do the work with a compliant contractor, they don't do the work because they can't afford it, or they do the work with an underground contractor because it costs so much less. He stated there will be less work for the compliant contractor because his costs are higher. There will be more furnaces that don't get installed because the cost is higher and there will be additional work shunted to the underground community. He also noted that, despite his company's longevity, they are straining to survive in this economy. It has been difficult for some time and this testing requires significant capital expenditures at a time when they are struggling to make payroll.

Mari noted that this is a Mechanical, Ventilation and Energy Committee meeting. There will be a full Council meeting tomorrow, where you are more than welcome to present your views.

Jeff Holgate, Washington Energy Services, added that both of these gentlemen are technically competitors, but in this issue stand united because, as he just said, the cost is significant for both his company and other contractors. He noted they are looking at close to \$100,000 in expenditures.

Patrick Hayes stated he was on the technical advisory group that helped put that language to into the code. He agreed this would be challenging in the retrofit world. But he felt it can't go away entirely, because during the 70's, 80's, and 90's all the duct work installed in crawl spaces is heating the crawl space as much as it is heating the house. Fixing the ducts in the crawlspace is not intruding into the house. That is really what this is driving at. The language of the code probably could be altered to be more specific to address some of the problems mentioned, and the Technical Advisory Group can help you develop revised language that is more accommodating to your industry as opposed this global wording.

Craig Williamson said the intrusion comes from the testing requirement of covering the diffusers throughout the home in order to pressurize the ductwork and some people don't want us in their bedrooms or in their offices and when you don't access 100% of the air registers, you are not going to be able to conduct the test.

Patrick said he has done lots of energy analyses over the years. If you took, for example, a 100,000 BTU furnace that would be required after you did all the calculations. If you put all the ducts inside the heated space, now they are not losing anything. Next thing

you know, you realize you only need a 65-75,000 BTU furnace. So the amount of heat that is lost through the ducts in crawl spaces from sloppy duct work is huge. You could turn it around and as a service to your clients say I'm going to save you that much more energy by sealing these ducts. He noted that there can be retrofit exceptions, or more specific language worked out, but technically you can turn it into a positive. Tim commented that Mr. Williamson has submitted a code change proposal. The request is for a repeal of that section of the code. While we have passed the Council's March 1 deadline, there are some other procedural issues the Council needs to address. The Council may want to consider this or the Committee may want to make a recommendation. We are outside of the regular process in terms of TAG review and code change submittal.

REPORT ON ENERGY CODE STRATEGIC PLAN WORK GROUP

Chuck Murray reported that since the last meeting when the schedule for webinars and group meetings was determined, the Department of Commerce held two webinars. One was on Measurement and Target Setting and the other meeting discussed Aspirational Codes. The first meeting had "thin" attendance. The attendance picked up for the second meeting and he hopes it will continue that way. He noted that at the first meeting on Measurement a couple of experts attended and talked about the way the national codes are evaluated and how they are measured, looking at the PNNL method in particular. They also looked at what occurred during the last code cycle using regional methodology, and he presented a target setting schedule he felt reflected the legislative goals.

The second webinar was on Aspirational Codes. Most of that was also captured at the meeting this morning at 9 a.m.

With respect to these subjects, Chuck feels there was general consensus about the measurement methodologies that were presented. There are still many details yet to be worked out but he thinks that the approach that PNNL uses to do a base prototype building type and square footage weighted improvement analysis was generally agreed upon by the people who attended. He believes they need to work up more detailed language for comment. With respect to Target Setting; there was agreement that the targets set were consistent with the legislation. One comment was that people wanted to make sure we were dealing incremental reductions in units of energy rather than some kind of percent saved. He will try and articulate that in a different way in the future.

Mari asked about trying to recognize existing programs for achieving greater energy efficiency. Chuck said one of the ideas regarding an aspirational code is to make it a part of the regular State Building Code Council code adoption process. The Council would establish a minimum code and they might, perhaps as an appendix, or some other way detail an aspirational code to represent what the code might look like one or two code cycles out in the future. This would lead to the ability of good alignment between the aspirational code and the existing code with respect to documentation, which would allow consistency so that utility or government programs, such as tax incentives, would

be able to concentrate their efforts on those particular targets. The contrasting view of that is that there are a lot of existing programs, EnergyStar, Built Green, and LEED for example, and there is a fear that this particular idea would somehow undermine those existing programs and the sort of alignment that we would like to see wouldn't ever really happen because people would choose to do other things than comply with an aspirational code. Chuck continued to say he would be developing language on both of those. Chuck noted that webinars are going to occur every Tuesday for the next six weeks.

John Cochran said one thought occurred to him regarding the aspirational or reach codes and that was maybe having the Council form a TAG that looks into this and the Council could facilitate pulling all these subgroups together. Tim noted the Green Building TAG could possibly serve that function and it could be an item on that work plan. John said he was thinking of a separate group because the Green Building Code TAG will be focused on the Green Building Code, International Green Construction or whatever it is. It might even be separate from the Energy Code TAG. Chuck said a lot of the participants in the Green Building Code are the people who will have an interest in it. John continued to say that the IGCC is probably focused on that code and how it crosses over into the other code. The group he's envisioning is a brainstorming think tank. Chuck suggested a one-time meeting to see where it goes. John felt it would take more than one meeting. Tim commented that John may be thinking about picking up where the strategic plan leaves off. Chuck said at the end of his process there will likely be a recommendation. What people do with the recommendations is another thing. Mari asked it would need to be an ongoing TAG? John said he thinks it would have to be, because of the incremental steps between now and 2031. Chuck felt this could be accomplished through the current code development process simply by adding an appendix to the code with a few modifications that would get you to the next level. For example, in the code that comes out of the IGCC, they have both prescriptive and performance, but it is more prescriptive, along the lines of substituting the building envelope table in the code with the one from the appendix. Then don't rewrite all the other stuff that goes with it, but say this is the building envelope and for equipment you look at something that is a little better. By providing some simple modifications to the existing code, you make that very strong link between the document and the revision. That's the pitch for the SBCC doing it as part of their regular code development activity for energy code. It's just an additional step to supply the appendix with those modifications that will result in less energy use of the building. Tim summarized by stating that this strategic plan being developed will include recommendations to the Council on Energy Code updates and this is essentially Subsection A, considering development of an Aspirational Code. It would be the Council's decision of how, if, and when to implement that. Chuck said it would be good for the strategic planning group to hear back from the Council.

Mari thanked Chuck for his summary of the Strategic Plan activities. She asked the Committee if they felt a need to meet next month. Chuck would continue to have his work group meetings and webinars. The webinars that are going to be discussed before the next scheduled Council meeting are Performance Based Codes, Financial Mechanisms, Cost Benefit, and Research and Demonstration.

Motion #1:

John Cochran made a motion there be no MVE meeting in July. Dale Wentworth seconded this motion. The motion carried unanimously.

Tim suggested there be an overall view of what this plan and timeline is, where the Council can provide input and what is expected of the Council as a result of this plan. Mari said she planned to report to the Council on Chuck's summary from today regarding the webinars and then highlight the next webinars and where they could find the link. Tim felt that would be fine.

ENERGY CODE INTERPRETATION REQUESTS

Mari noted three Washington State Energy Code interpretation requests have been received and went out in the mailing for today's meeting. Tim said these interpretations were part of a negotiation with the Master Builders Association in looking at some of their concerns on the implementation of the Energy Code. They are on the agenda for the Council meeting tomorrow. The Committee may want to make a recommendation. Keep in mind that part of that negotiation was the Governor's request, which will be discussed later today and will be the subject of a special Council meeting on tomorrow. So these interpretations will be affected by the decision the Council will make on the Governor's request. John Cochran suggested the Committee not take any action on them today, but go ahead and discuss them in general.

Tim said the three interpretations are all on the residential portion of the Energy Code, which is the one and two family dwellings and townhouses under the 2009 State Energy Code. The first interpretation addresses lighting in Section 505.1. The new requirement is for 50% of the luminaries to be high efficacy. High efficacy is defined in the code as other than a screw based bulb. The question is, where it is demonstrated that you save an equivalent or greater amount of energy with a screw based bulb is that an acceptable alternative method? The suggested answer is yes, the building official can allow that alternative method where it is demonstrated that the energy savings is equivalent or greater. There is also some information about replacing the bulb with a regular incandescent bulb and that was one of the disincentives for having a screw based bulb.

The second interpretation concerns blower door testing and air leakage testing in buildings. The issue or concern is what happens if the house fails the test? The second part of the question is can a sampling of buildings, or an example building be used rather than testing every home constructed? The first question asks if the test fails is it acceptable to do a second test to identify air leaks, seal leaks, and then record the results from the second test? The suggested answer is yes it could be considered acceptable. Again, all of this is subject to the approval of the building official and these are advisory opinions. If, in the opinion of the building official, the area of air leakage has been identified and sealed the final result is recorded on the certificate. For the second part of the question regarding sampling, the suggested answer is yes, you can use this test

assuming all conditions are the same including the air sealing techniques and the type of construction, the homebuilders and the timeframe. Again these are advisory opinions to the local official of how to enforce this.

The third interpretation is regarding Section 503.10.1 and the requirement that ducts cannot displace required insulation in the walls. The Council discussed this provision at length during the work session. There was concern about register boots and plenums through the wall. There was a discussion about whether or not this would prohibit ducts in exterior walls at all. The question is, does it prohibit those things and the answer is no. The intent is to prohibit duct runs in uninsulated wall cavities. Penetrations in the floor insulation, supply registers and plenums are acceptable.

Kraig Stevenson commented the interpretation could be clearer on the intent. First of all, for duct runs in uninsulated exterior wall cavities, a three and one quarter or a three and one half by 14 duct can easily move well over 100 CFM depending upon your arrangement. So, in a two by six cavity, you could have a partially insulated wall. He recalls that the intent was that the displacement of insulation should not been occurring because it is less than the full wall cavity. So the word uninsulated leads somebody to believe that partially insulated cavities are okay. It could be potentially misleading. Also, is it the intent to explain that it is okay to try to displace the insulation when you are perpendicular to the floor or wall cavity? You don't want to have the duct run parallel with that floor or wall cavity.

Patrick Hayes said you need to somehow identify the definition of cold wall and a warm wall. A warm wall is the demising wall, because it is warm on both sides and the cold wall is cold on one side and warm on the other side. It could be an exterior wall. A garage wall is a cold wall. The intent is not to displace the insulation running parallel, but it is okay to run perpendicular or at 90 degrees. We do that all the time, whether it's floor, walls or whatever. If they want to run ducting down a cold wall and displace part of the insulation, then they have to do a calculation and count that part of the wall. In other words, they are going to add something somewhere else. If you go with what you've got here, you're going to have a return plenum right down the wall cavity in the garage wall; which is not the intent. We do it all the time in multi-families with soffit and whether it's a wall or a floor cavity, we soffit day in and day out or just do the simple UA calculation. Tim said he would be able to revise the drafts presented to Council tomorrow.

STAFF REPORT

Tim reminded the Committee the offices would be moving to General Administration and the e-mail addresses will be changing as of July 1. Staff will be including a notice on the bottom e-mail signatures giving the new e-mail and phone number. The e-mail addresses will be basically the same as the current ones, but the word "commerce" will be replaced with ga. For example, tim.nogler@ga.wa.gov. The office phone numbers will be changing in August once the physical move happens.

OTHER BUSINESS

Mechanical TAG Report

The Mechanical TAG met on May 13 to discuss two proposed amendments. Lee Kranz, the proponent of one of the proposals, which would amend the definition of environmental air, was present at the meeting. The TAG had quite a discussion and this was not a unanimous decision, but ultimately voted to recommend the proposal be approved as modified. The modification made by the TAG was to include exhaust from transformer vaults in the definition as well and eliminate that verbiage from item 3 in Section 501.2.1.

Tim reminded the Committee there are different levels of rule making. The TAG did not identify any immediate need for adoption, which would then put this into regular rulemaking for public hearing. Then if adopted it would be in November and would not take effect until the next code comes into effect. So the next step would be to open it up for public hearing and take public comment. Then the Council and the Committee would have the opportunity to study this through the public hearing and then have the final vote in November.

Dale Wentworth commented that there was poor attendance at the TAG meeting and there was question of whether those voting were TAG members, since both primary and alternate representatives were in attendance. Dale said he has concerns about classifying parking garage exhaust as environmental air. It's like telling a homeowner to open up the return air to the or garage and that's okay to breathe that in. Having personal experience, he knows that can be extremely dangerous.

Mari said even though the TAG may recommend approval, the Committee determines whether to accept that recommendation or not. Tim said they can bring it forward to the Council with a TAG recommendation and a different Committee recommendation. As TAG members who were not in attendance at the meeting, Patrick and Kraig both indicated they would have expressed reservations regarding this proposal. Tim said the proposal is to have a hearing on this and then vote at the end of the year whether to put it into effect in 2012. Krista noted this does reflect a change that was made in the model code. So this would already be something that was reviewed for the 2012 code as a change to the base code that affects a state amendment. John asked if the proposal was identical to the model code language. Krista stated the only difference is the addition of transformer vaults to the definition. Tim stated the Committee could report to the Council tomorrow that the TAG approved it by a divided vote.

Motion #2:

Dale Wentworth moved to take this forward to the Council as a divided vote. John Cochran seconded the motion. Motion unanimously approved.

Mari reported that a second amendment proposal was also discussed at the meeting. IMC-2, regarding the elevation of water heaters in garages, was already discussed by the

Plumbing Code TAG and the Mechanical Code TAG agreed with their recommendation for disapproval. Dale said the Plumbing Code TAG recommended disapproval because they felt it was necessary to remain consistent with other codes, and that it did present a real ignition hazard in garages.

Motion #3:

John Cochran made the motion that the recommend to the Council they not approve the proposed amendment. Dale Wentworth seconded the motion. The motion unanimously carried.

Krista noted there is also a recommendation coming out of the Plumbing Code TAG that the Plumbing Code be amended to specify the intent is to elevate both electric and gas appliances. Tim asked if that would be moved forward as taking effect this year? Krista said there was no recommendation from the TAG to that effect.

Governor's Request Letter

Mari noted there will be a special meeting tomorrow at 1 p.m. to discuss the Governor's request. Tim said there is no Committee action required here, this is just for your information. If the Committee wanted to make a recommendation they could. The Governor is recommending a delay in the implementation of the Energy Code until April 1, 2011. He explained how that would need to work procedurally. The Council would have to adopt an emergency rule at the meeting tomorrow with an effective date other than the date that's in the rule that has already been adopted. The emergency rule would be effective for 120 days, which is the end of October. At that point, before the end of October, the Council would then have to adopt a permanent rule. There are already public hearings scheduled in September and October. Again, this is just changing the date, unless the Council identifies some other change or amendment to file for public hearing. Tim noted that the special meeting is not a public hearing. At the regular meeting, the Council will have an opportunity for public comment on items not on the agenda and there is also an executive session on the agenda. The executive session is intended for a brief overview of the pending litigation on the federal lawsuit we have on the pre-emption issue of Chapter 9. There was a status conference with the judge on Tuesday and the attorneys are having another status conference on Monday with the judge to discuss that lawsuit based on any decisions that the Council makes tomorrow.

ADJOURNMENT

There being no further business, the meeting was adjourned.